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CRYOGENIC FLUIDS CHECKLIST

California Fire Code Chapter 32

Scope

An operational permit is required to produce, store, transport on site, use, handle or dispense cryogenic fluids in excess of the amounts listed in Appendix Chapter 1, Table 105.6.10.

Partially full containers containing residual cryogenic fluid shall be considered as full.

Conditions:

- ☐ Cryogenic liquid containers are Underwriter's Laboratory (UL) listed and approved.
- ☐ Containers are on substantial concrete/masonry foundation or steel supports attached to concrete/masonry foundation.
- ☐ Portions of container in contact with foundation or steel support are provided corrosion protection.
- ☐ Pressure relief devices are provided and maintained at containers and associated equipment.
- ☐ Hazard identification (i.e. NFPA 704 placard) is provided at building entrances.
- ☐ Containers are labeled with their contents (i.e. chemical name and hazard class).
- ☐ Container nameplate and container connection, control, valve and gauge identification is provided.
- ☐ Piping systems are marked with the content name, content color and direction of flow at 20 foot intervals and at each valve, change of direction and at wall, floor, or ceiling penetrations.
- ☐ Emergency shut-off valves are identified, visible and indicated by sign.
- ☐ Containers and systems are secured against unauthorized entry.
- ☐ Stationary containers are secured to a foundation and portable containers are secured to a fixed object, nested or in a rack.
- ☐ Vaporizers, heat exchangers and similar equipment are anchored to a foundation.

- ☐ Containers, piping, valves, relief devices, regulating equipment and other appurtenances are protected against physical damage, tampering and corrosion.
- ☐ Class I electrical and electronic equipment is provided and maintained where applicable.
- ☐ Containers and systems are not used for electrical grounding.
- ☐ Leaking, damaged or corroded containers are removed from service.
- ☐ Outdoor storage area is 15 feet or more from combustible materials such as paper, leaves, weeds, dry grass or debris.
- ☐ Outdoor stationary containers are located 1 foot from buildings and wall openings, 10 feet from air intakes, 5 feet from lot lines, 50 feet from places of assembly and nonambulatory patient area and as required for specific fluid stored.
- ☐ Outdoor stationary containers are not located in diked areas containing other hazardous material.
- ☐ Outdoor stationary containers are elevated or anchored in areas subject to flooding.
- ☐ Outdoor portable containers are located 10 feet from exits and air intakes, 1 foot from wall openings, 5 feet from lot lines and as required for specific fluid stored.
- ☐ Surface beneath outdoor storage is compatible with liquid stored.
- ☐ Drainage is provided and maintained at outdoor storage areas.
- ☐ Equipment, machinery and processes are UL listed and approved.
- ☐ Shut-off valves are installed at container connections and piping.
- ☐ Manual or automatic shut off valves are installed at outdoor container and at the point where system enters the building.
- ☐ Overfill controls are provided and maintained at stationary containers.

Additional Requirements may apply